

Translated English of Chinese Standard: GB/T22888-2021

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**GB**

NATIONAL STANDARD OF THE  
PEOPLE'S REPUBLIC OF CHINA

ICS 59.140.30

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**GB/T 22888-2021**

Replacing GB/T 22888-2008

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**Leather - Physical and mechanical tests -  
Determination of cold crack temperature of surface  
coatings**

皮革 物理和机械试验 表面涂层低温脆裂温度的测定

(ISO 17233:2017, MOD)

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## Foreword

This Standard is drafted in accordance with the rules given in GB/T 1.1-2009.

This Standard replaces GB/T 22888-2008 "Leather - Physical and mechanical tests - Determination of cold crack temperature of surface coatings".

Compared with GB/T 22888-2008, in addition to editorial changes, the main technical changes of this Standard are as follows:

- Delete the description of the number of test pieces in "3 Principle" (see Clause 3 of the 2008 edition);
- Add the requirement for door of "4.1 Cooled chamber" (see 4.1);
- Add the provision of fixing the test pieces with an adhesive tape in "4.3 Hinged sample holder" (see 4.3);
- Simplify the requirements of "4.4 Press knife"; adjust relevant content to sampling and sample preparation (see 4.4 and 5.2; 4.4 of the 2008 edition);
- Add "4.6 Adhesive tape" (see 4.6);
- Add instructions for sampling at non-standard locations (see 5.1);
- Refine "5.2 Sample preparation"; modify the number of test pieces prepared (see 5.2; 5.2 of the 2008 edition);
- Modify Figure 1; add the content of fixing test pieces with adhesive tape (see Figure 1; Figure 1 of the 2008 edition);
- Modify and refine the test procedure (see 6.1~6.7; 6.1~6.3 of the 2008 edition);
- Modify the judgment of cold crack temperature of surface coatings (see 6.8; 6.4 of the 2008 edition);
- Adjust the test report (see Clause 7; Clause 7 of the 2008 edition).

This Standard uses the redraft law to modify and adopt ISO 17233:2017 "Leather - Physical and mechanical tests - Determination of cold crack temperature of surface coatings".

Compared with ISO 17233:2017, the structural adjustments of this Standard are as follows:

- Delete "3 Terms and definitions". The subsequent clause-subclause

numbers are changed in turn (see Clause 3 of ISO 17233:2017);

- Combine 6.2 and 6.3 in ISO 17233:2017 into 5.2 (see 5.2).

The technical differences between this Standard and ISO 17233:2017 and their reasons are as follows:

- As for the normative references, this Standard has made adjustments with technical differences, to adapt to the technical conditions of China. The adjustments are mainly reflected in Clause 2 "Normative references". The specific adjustments are as follows:
  - Replace ISO 2418 with GB/T 39364, which modifies and adopts the international standard (see 5.1 and Clause 7);
  - Replace ISO 2419 with QB/T 2707, which modifies and adopts the international standard (see 4.4);
  - Delete the reference to EN 15987 (see Clause 2 of ISO 17233:2017).
- Delete "3 Terms and definitions". There is no actual content. It does not affect understanding and use (see Clause 3 of ISO 17233:2017).
- Modify the requirements for adhesive tape, to avoid ambiguity (see 4.6).
- Add the requirements for sampling at non-standard locations, to meet the needs of daily testing (or sampling directly from shoes and clothing) (see 5.1).
- Modify the test result presentation method if "the surface coating does not crack when tested at  $-30\text{ }^{\circ}\text{C}$ ", which is in line with China's custom and to avoid repetition (see 6.8).

This Standard has made the following editorial changes:

- Modify the expression method of test temperature range (see 4.1 and 4.2);
- Add subclause numbers for sampling and sample preparation (see Clause 5);
- Modify the content of testing at the specific temperature in the note to 6.2 (see 6.2);
- Adjust the sorting of the contents in the test report (see Clause 7);
- Delete the subclause numbers of A.2~A.10 in Annex A (see Annex A of ISO 17233:2017).

# **Leather - Physical and mechanical tests - Determination of cold crack temperature of surface coatings**

## **1 Scope**

This Standard specifies a method for determining the cold crack temperature of surface coatings applied to leather.

This Standard is applicable to the determination of crack temperature of surface coatings of all leathers which have a surface coating and can be easily flexed.

## **2 Normative references**

The following documents are indispensable for the application of this document. For the dated references, only the editions with the dates indicated are applicable to this document. For the undated references, the latest edition (including all the amendments) are applicable to this document.

GB/T 39364 Leather - Chemical, physical, mechanical and fastness tests - Sampling location (GB/T 39364-2020, ISO 2418:2017, MOD)

QB/T 2707 Leather - Physical and mechanical tests - Sample preparation and conditioning (QB/T 2707-2018, ISO 2419:2012, MOD)

## **3 Principle**

A strip of leather test piece is held in a hinged apparatus in a cooled chamber at a given temperature for a certain period of time. The hinged apparatus is closed rapidly causing the leather to be folded with the surface coating outwards. The leather is examined to determine if the surface coating has cracked.

## **4 Apparatus and materials**

**4.1** Cooled chamber; the internal height is  $\geq 500$  mm; the internal width and depth are both  $\geq 300$  mm; with a rack or other support; the temperature control range is  $-30$  °C~ $5$  °C; the temperature control accuracy is at least  $\pm 2$  °C. The design of the chamber shall allow free circulation of air around the test piece

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Contact: Wayne Zheng, [Sales@ChineseStandard.net](mailto:Sales@ChineseStandard.net)

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